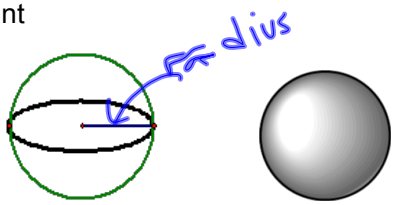
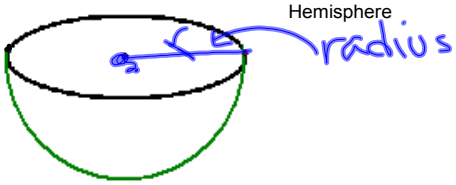
9-6 Area and Volume of Spheres

sphere-the set of all points in space that are the same distance from a point





$SA = 4\pi r^2$

$V = \frac{4}{3}\pi r^3$

Find the area and volume of a sphere with radius = 7cm.

$SA = 4\pi 7^2$

$4\pi 49$

$SA = 196\pi \text{ cm}^2$

$V = \frac{4}{3}\pi 7^3$ (Calc. $7\wedge 3$)

$343 \times 4 \div 3$

$= 457.3\pi$

$SA = 4\pi r^2$

$V = \frac{4}{3}\pi r^3$

Find the volume of a sphere with radius = 9cm.

$r = 9\text{cm}$

$SA = 4\pi 9^2$

$4\pi 81$

$SA = 324\pi \text{ cm}^2$

$V = \frac{4}{3}\pi 9^3$

$729 \times 4 \div 3$

$972\pi \text{ cm}^3$

~~$SA = 4\pi r^2$~~

$V = \frac{4}{3}\pi r^3$

Find the volume of a hemisphere with radius = 10cm.

$\div 2$

$\frac{4}{3}\pi 10^3$

$1000 \times 4 \div 3$

$\div 2 = 666.6\pi \text{ cm}^3$